AMENDMENT-claims

The claims presented below are labeled pursuant to the request of the Patent and Trademark Office for convenience in examination. The cancellation of a claim, presentation of a new claim, or reference to a claim as "currently amended" is not an admission that the claim was altered for any reason related to patentability.

This claim listing replaces all prior versions and listings of claims in this application. Please amend the claims as follows:

29. (previously presented) A method of treatment, comprising administering to a mammal known or suspected to be suffering or to have suffered an acute myocardial ischemic event a therapeutically effective amount of an agent that alters the activity or concentration of an enzyme in an amount effective to treat acute myocardial ischemia, wherein said enzyme catalyzes a reaction that produces or degrades a sphingolipid or a sphingolipid metabolite, and wherein said agent is selected from the group consisting of a small molecule, a protein, a polypeptide, and a polypeptide derivative, thereby effecting treatment.

30. (previously presented) A method according to claim 29, wherein the treatment reduces physiologic damage that would occur following the acute myocardial ischemic event in the absence of treatment.

31. (previously presented) A method according to claim 30, wherein said damage is selected from the group consisting of sudden cardiac death, stable or unstable angina pectoris, myocardial tissue damage, myocardial cell death, reperfusion injury, myocardial infarction, and heart failure resulting from ischemic damage.

32. (previously presented) A method according to claim 29, wherein said sphingolipid or a sphingolipid metabolite is selected from the group consisting of sphingomyelin, sphingosine, sphingosine-1-phosphate, ceramide, ceramide-1-phosphate,

sphingosylphosphorylcholine, 3-ketosphinganine, galactosylceramide, and dihydroceramide.

33. (previously presented) A method according to claim 29, wherein said enzyme is selected from the group consisting of sphingomyelin synthase, sphingomyelin deacylase, sphingomyelinase, ceramidase, sphingosine-1-phosphate phosphatase, sphingosine kinase, ceramide synthase, sphingosine-1-phosphate lyase, cerebrosidase, ceramide-1-phosphate phosphatase, ceramide kinase, sphingomyelin deacylase, serine palmitoyltransferase, and NADPH-dependent reductase.

34. (currently amended) A method according to claim 1, wherein said enzyme is sphingomyelinase and the agent is:

(a) selected from the group consisting of: a sphingomyelin derivative, a scyphostatin, an anthracycline, an adriamycin and a roselipin; or

(b) selected from the group consisting of ascorbate, alpha-tocopherol, glutathione, DTT, manumycin, ubiquinol, sphingomyelin methylene, carnitine, desipramine, alutenusin, and SR3357; or

(c) an anti-oxidant.

35. (previously presented) A method according to claim 29, wherein the enzyme is sphingosine kinase and the agent is (a) a sphingoid base, or (b) selected from the group consisting of N, N-dimethylsphingosine, and D-threo-dihydrosphingosine.

36. (previously presented) A method according to claim 29, wherein the enzyme is ceramidase and the agent is selected from the group consisting of N-acetylsphingosine, (1S,2R)-D-erythro-2-(N-myristoylamino-1-phenyl-1-propanol, (1S,2R)-L-erythro-2-(N-myristoylamino-1-phenyl-1-propanol, and N-oleoyl-ethanolamine.

37. (previously presented) A method according to claim 29, wherein the enzyme is ceramidase synthase and the agent is (a) Fumonisin B1, or (b) selected from the group consisting of an alternaris toxin, a viridiofungin and an astralifungin.

38. (previously presented) A method according to claim 29, wherein the enzyme is ceramide –1-phosphate phosphatase, and the agent is (a) a cyclopropene ceramide, or (b) selected from the group consisting of sodium fluoride, propranolol, phenylglyoxal, and N-ethylmaleimide.

39. (previously presented) A method according to claim 29, wherein the enzyme is serine palmitoyl transferase, and the agent is (a) selected from the group consisting of lipoxamicin, L-cycloserine, beta-chloro-L-alanine, myriocin, and thermozymocidin, or (b) selected from the group consisting of a sphingofungin and an Isaria sinclairii compound.

40. (previously presented) A method according to claim 29, wherein the mammal is a human.

41. (previously presented) A method according to claim 29, wherein the agent that alters the activity or concentration of an enzyme is administered to said mammal in the form of a pharmaceutical composition comprising said agent and a pharmaceutically acceptable carrier or diluent.

42. (previously presented) A method of treatment, comprising administering to a human known or suspected to be suffering or to have suffered an acute myocardial infarction a therapeutically effective amount of an agent that interferes with the activity or concentration of an enzyme selected from the group consisting of sphingosine kinase and sphingomyelinase, wherein said agent is selected from the group consisting of a small molecule, a protein, a polypeptide, and a polypeptide derivative, thereby effecting treatment.